

#### APPLICATIONS:






This valve operates in conjunction with a pneumatic liquid level controller for discharge of liquid from separators, treaters, knockouts and other similar liquid accumulators in erosive or standard applications. It can also be used in back pressure or pressure reducing applications when paired with pressure pilots.

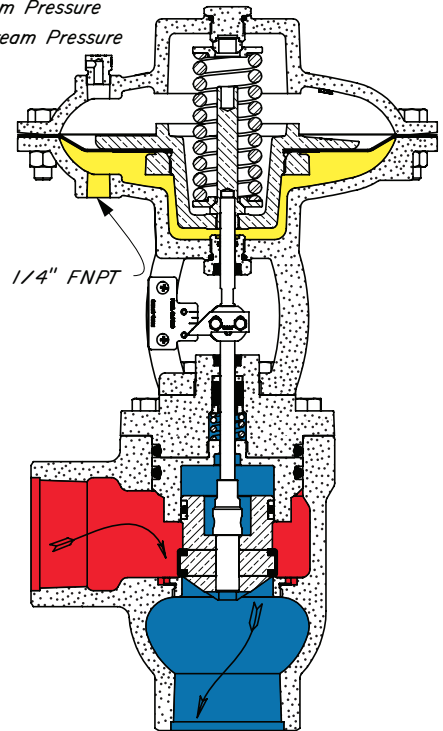
#### FEATURES:

- Soft seat
- Bubble tight shut-off at full range of pressure
- Piston balanced seat assembly
- Full line size & reduced orifice available
- Trim contoured for throttle or on/off service and specifically designed for erosive applications
- Field-reversible actuator: standard is fail closed, with easy reversibility to fail open

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0C22175.234567890NTY  
Kimray is an ISO 9001- certified manufacturer.

-  Control Valve Diaphragm Assembly
-  Control Valve Seat Assembly
-  Control Valve Diaphragm Pressure
-  Upstream Pressure
-  Downstream Pressure



Standard Configuration Code †	Order Code	Line Size	Connection Type	Body Type	Inner Valve	Actuator W.P. psig ††	Max Δ P psig	Max. W.P. psig ††	Cv	Cf	
DPH2SAADF2S	MYA	2"	FNPT	Angle	2.0"	6 - 30	500 †††	500	53.6	0.75	
DPH2SAADR2S	MYA5				1.5"				29.0		
DPH2ARADF2S	MYB				2.0"				53.6		
DPH2ARADR2S	MYB5				1.5"				29.0		
DPH2SATDF2S	MYC		150RF	Thru	2.0"		500 †††	250	250		53.6
DPH2SATDR2S	MYC5				1.5"						29.0
DPH2ARTDF2S	MYD				2.0"						53.6
DPH2ARTDR2S	MYD5				1.5"						29.0
DPH3SAADF2S	MYE	3"	FNPT	Angle	3.0"	500 †††		500	109		
DPH3SAADR2S	MYE5				2.0"				72.2		
DPH3ARADF2S	MYF				3.0"				109		
DPH3ARADR2S	MYF5				2.0"				72.2		
DPH3SATDF2S	MYG		150RF	Thru	3.0"		500 †††	500	500	109	
DPH3SATDR2S	MYG5				2.0"					72.2	
DPH3ARTDF2S	MYH				3.0"					109	
DPH3ARTDR2S	MYH5				2.0"					72.2	

#### NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 04:I - 04:III

† For Corrosive service remove last "S" & replace with "C"

† For Erosive option remove last "S" & replace with "E"

† For KimCoat option remove last "S" & replace with "K"

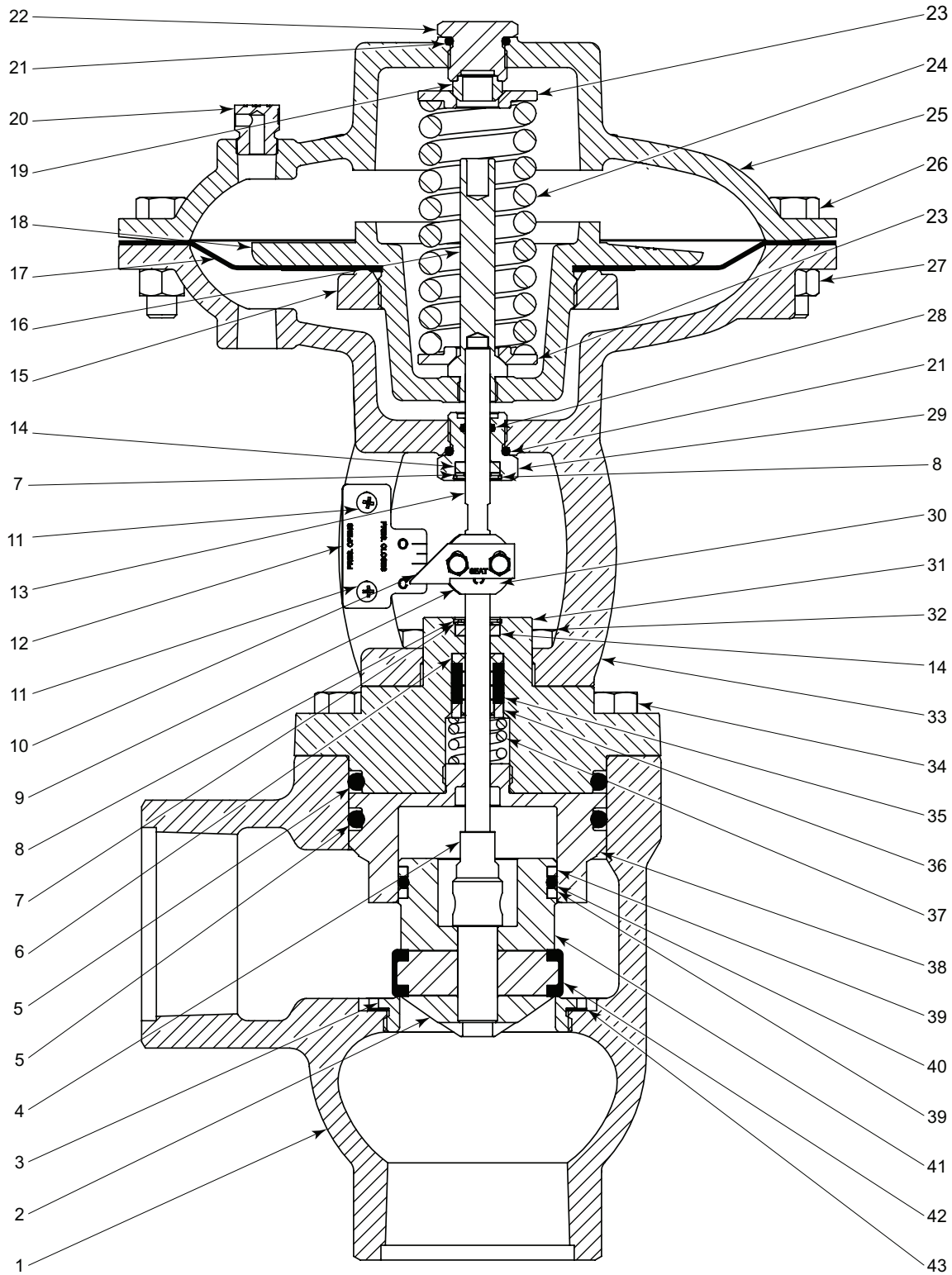
† For code builder see page 04:00.2

†† Max W.P. values based on -20°F to 100°F.

††† Pressure drops above 250 psig could cause fluid hammer, potentially leading to premature wear.

# LIQUID DUMP VALVES PNEUMATIC OPERATED

PISTON BALANCED THROTTLING LOW PRESSURE HIGH VOLUME  
MODEL PP PARTS DRAWING



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



**LIQUID DUMP VALVES PNEUMATIC OPERATED**

**PISTON BALANCED THROTTLING LOW PRESSURE HIGH VOLUME  
MODEL PP PARTS LIST**

ITEM	QTY.	DESCRIPTION	PART NO.						
			STANDARD		CORROSIVE		EROSIVE		
			2 INCH	3 INCH	2 INCH	3 INCH	2 INCH	3 INCH	
1	1	Body	NPT Angle	6786	7139	6786	7139	6786	7139
			150RF Angle	7655	7319	7655	7319	7655	7319
			NPT Thru	7163	7693	7163	7693	7163	7693
			150RF Thru	7694	7695	7694	7695	7694	7695
2	1	Ratio Plug Δ ◇	Full Port	7625	7647S3	7625S6	7647S6	7625D2	7647D2
			Reduced Port	7644S3	7625	7644S6	7625S6	7644D2	7625D2
3	1	Removable Seat Δ ◇	Full Port	7630	7653S3	7630S6	7653S6	7630D2	7653D2
			Reduced Port	7554	7654S3	7554S6	7654S6	7554	7654D2
4	1	Stem Δ ◇	Full Port	7628PH	7646PH	7628S6	7646S6	7628PH	7646PH
			Reduced Port	7643PH	7649PH	7643S6	7649S6	7643PH	7649PH
5	2	O-Ring (only 1 in conv. kit) Δ *	329HSN	330HSN	329HSN	330HSN	329HSN	330HSN	
6	1	Packing Sleeve *	485	534	485	534	485	534	
7	2	Retainer *	486	528	486	528	486	528	
8	2	Snap Ring *	938	940	938	940	938	940	
9	1	Coupling Block	1659	511	1659	511	1659	511	
10	1	Travel Indicator	1659A	535	1659A	535	1659A	535	
	2	Screw	7617	512	7617	512	7617	512	
11	2	Screw	7534		7534		7534		
12	1	Indicator Scale	488	536	488	536	488	536	
13	1	Upper Stem	1643	522	1643	522	1643	522	
14	2	Felt Wiper *	480	527	480	527	480	527	
15	1	Retainer Ring	476	4356	476	4356	476	4356	
16	1	Pivot Sleeve	466	510	466	510	466	510	
17	1	Diaphragm	475	519	475	519	475	519	
18	1	Diaphragm Plate	469	4357	469	4357	469	4357	
19	1	Pivot	459	504	459	504	459	504	
20	1	Breather Plug	147		147SS6		147		
21	2	O-Ring *	491HSN	537HSN	491HSN	537HSN	491HSN	537HSN	
22	1	Upper Adjusting Screw	457	502	457	502	457	502	
23	2	Spring Plate	462	507	462	507	462	507	
24	1	Spring	464	508	464	508	464	508	
25	1	Bonnet	461	506	461	506	461	506	
26	(Qty)	Nut	241 (10)	241 (16)	241 (10)	241 (16)	241 (10)	241 (16)	
27	(Qty)	Bolt	247 (10)	430 (16)	247 (10)	430 (16)	247 (10)	430 (16)	
28	1	O-Ring *	153HSN	530HSN	153HSN	530HSN	153HSN	530HSN	
29	1	Lower Adjusting Screw	458	503	458	503	458	503	
30	1	Position Tag	----	677	----	677	----	677	
31	1	Stuffing Bonnet	7623	7656	7623	7656	7623	7656	
32	4	Bolt	694	524	694	524	694	524	
33	1	Yoke	460	505	460	505	460	505	
34	6	Bolt	1672	1672	1672	1672	1672	1672	
35	(Qty)	Packing Ring *	484HSN (4)	533HSN (6)	484HSN (4)	533HSN (6)	484HSN (4)	533HSN (6)	
36	1	Packing Follower *	482SS6	531SS6	482SS6	531SS6	482SS6	531SS6	
37	1	Packing Spring *	465	509	465	509	465	509	
38	1	Cylinder Δ	Full Port	7624	7657S3	7624S6	7657S6	7624	7657S3
			Reduced Port	7651S3	7658S3	7651S6	7658S6	7651S3	7658S3
39	2	Back Up Δ ◇ *	Full Port	7683	7684	7683	7684	7683	7684
			Reduced Port	7558	7683	7558	7683	7558	7683
40	1	Piston Seal Δ ◇ *	Full Port	801HSN	4768HSN	801HSN	4768HSN	801HSN	4768HSN
			Reduced Port	808HSN	801HSN	808HSN	801HSN	808HSN	801HSN
41	1	Piston Δ ◇	Full Port	7626	7652S3	7626S6	7652S6	7626	7652S3
			Reduced Port	7642S3	7648S3	7642S6	7648S6	7642S3	7648S3
42	1	Seat Disc Δ ◇ *	Full Port	7669HSN	7685HSN	7669HSN	7685HSN	7669HSN	7685HSN
			Reduced Port	7498HSN	7669HSN	7498HSN	7669HSN	7498HSN	7669HSN
43	1	Gasket Δ ◇ *	276	277	276	277	276	277	
	2	Lifting Ring (not shown)	----	7559	----	7559	----	7559	
Plug Assemblies			Full Port	MYJ	MYK	MYJS6	MYKS6	MYJD2	MYKD2
			Reduced Port	MYI	MYL	MYIS6	MYLS6	MYID2	MYLD2
			Δ These parts are stocked as Plug Assemblies.						
Repair Kits			Full Port	RYW	RYX	RYW	RYX	RYW	RYX
			Reduced Port	RYW5	RYX5	RYW5	RYX5	RYW5	RYX5
			* These parts are recommended spare parts and are stocked as repair kits.						
Conversion Kits			Reduced Port	MYN	MYP	MYNS6	MYP6	MYND2	MYPD2
			Δ These parts are stocked as Conversion Kits.						

Table 1 - Flow Coefficient(Cv) for Pneumatic Dump Valves													
Line Size	Trim Size in. (mm)	Trim Type	Cf	Valve Opening Percentage									
				10	20	30	40	50	60	70	80	90	100
<b>Diaphragm Balanced</b>													
2"	1 1/2 in (38mm)	Linear (Nominal)	<b>0.79</b>	5.0	8.5	11.7	14.6	17.0	19.0	20.5	21.6	22.6	23.3
3"	2 1/4 in (57 mm)		<b>0.79</b>	6.7	11.1	15.6	20.3	24.8	29.2	33.4	37.2	40.7	43.8
4"	3 in (76 mm)		<b>0.79</b>	12.0	18.9	25.8	32.8	39.9	46.9	53.7	60.0	65.7	70.1
6"	4.88 in (124 mm)		<b>0.79</b>	14.2	21.0	31.6	61.2	98.3	139	179	217	250	277
<b>Low Pressure High Volume Piston Balanced Throttling</b>													
2"	1 1/2 in (38mm)	Linear (Nominal)	<b>0.75</b>	5.50	7.80	10.5	14.1	16.8	18.5	21.9	24.3	26.7	29.0
2"	2 in (51 mm)		<b>0.75</b>	9.70	16.5	23.9	29.7	34.9	39.8	43.7	47.4	50.4	53.6
3"	2 in (51 mm)		<b>0.75</b>	13.3	22.8	32.1	42.8	51.6	57.9	62.6	66.2	70.9	72.2
3"	3 in (76 mm)		<b>0.75</b>	19.0	33.6	47.5	62.7	75.2	83.9	91.7	97.7	105	109
<b>Piston Balanced Throttling</b>													
2"	2 in (51 mm)	Linear (Nominal)	<b>0.75</b>	6.6	12.3	18.4	24.2	29.5	34.1	38.0	41.2	44.0	47.0
3"	3 in (76 mm)		<b>0.75</b>	12.7	18.7	29.0	41.0	52.9	63.4	71.9	78.4	83.7	89.0
4"	4 in (76 mm)		<b>0.75</b>	11.7	18.1	24.8	36.8	58.3	86.1	114	137	152	160

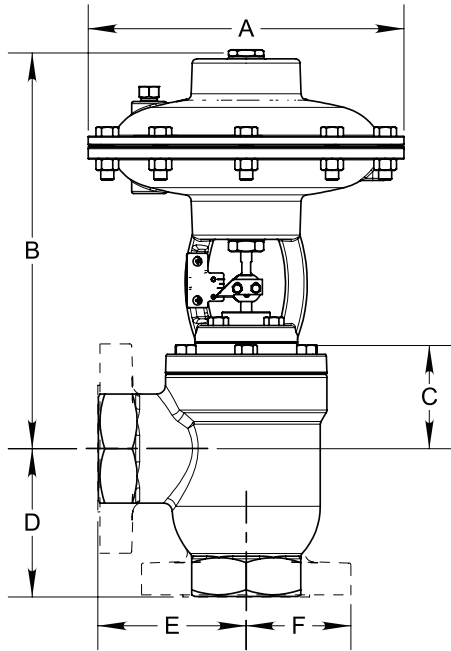
Kimray flow equations conform to ANSI/ISA - 75.01.01-2002  
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

# LIQUID DUMP VALVES PNEUMATIC OPERATED

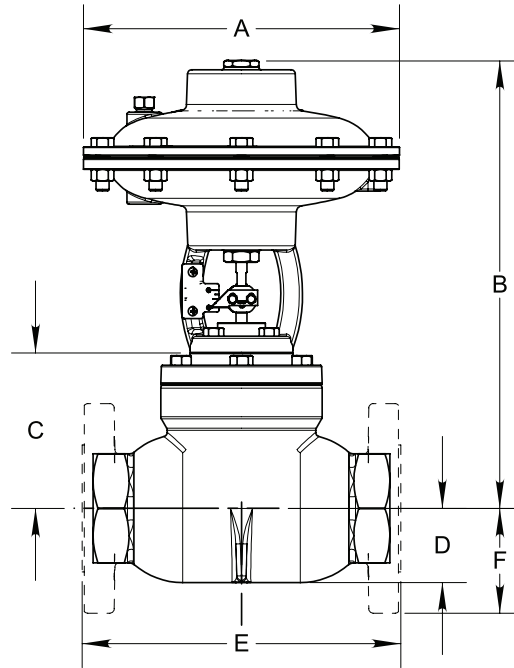


## DIMENSIONS

PH ANGLE DIMENSIONS



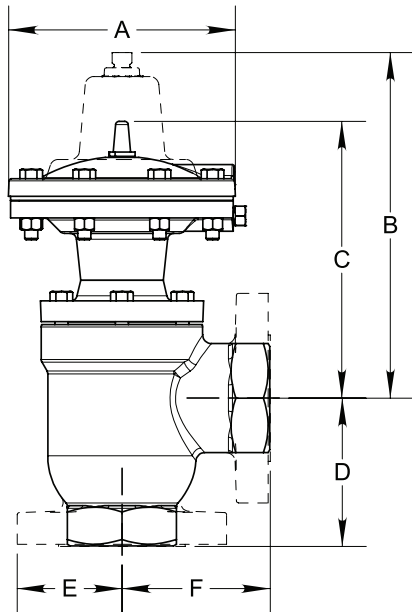
PH THRU DIMENSIONS



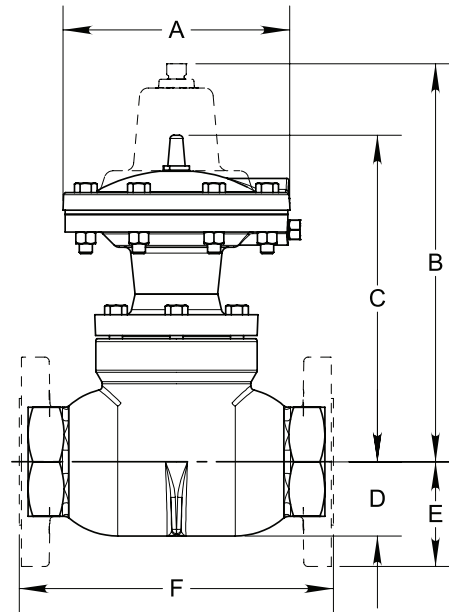
VALVE	A	B	C	D	E	F
2" SA & AR	9 1/16	11 9/32	2 29/32	4 1/4	4 1/4	3
3" SA & AR	12 7/8	15 9/32	4 1/32	5 1/2	5 1/2	3 3/4

VALVE	A	B	C	D	E	F
2" SA	9 1/16	12 13/16	4 7/16	2 1/8	8 1/2	3
2" AR	9 1/16	12 13/16	4 7/16	2 1/8	9 1/8	3
3" SA	12 7/8	17 5/32	5 29/32	2 7/8	12	3 3/4
3" AR	12 7/8	17 5/32	5 29/32	2 7/8	12 3/16	3 3/4

PB, PB, PP ANGLE DIMENSIONS



PB, PB, PP THRU DIMENSIONS



VALVE	A	B	C	D	E	F
2" SA & AR	6 1/2	9	8 1/2	4 1/4	3	4 1/4
3" SA & AR	8 1/2	11 3/4	10 1/4	5 1/2	3 3/4	5 1/2
4" SA & AR	8 1/2	12 1/2	11	6 1/2	4 1/2	6 1/2
6" SA & AR	10 3/4	—	19 3/4	10 1/4	5 1/2	7 11/16

VALVE	A	B	C	D	E	F
2" SA	6 1/2	10 3/8	9 7/8	2 1/8	—	8 1/2
2" AR	6 1/2	10 3/8	9 7/8	—	3	9
3" SA	8 1/2	13 5/16	11 9/16	2 7/8	—	12
3" AR	8 1/2	13 5/16	11 9/16	—	3 3/4	12 3/16
4" SA	8 1/2	14 7/8	13 3/8	—	4 1/2	15 1/8
6" SA	10 3/4	—	19 3/4	—	5 1/2	22

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

Table 2 - Seal Options		
Part	Standard Material	Optional Material
O-rings	HSN	FKM
Diaphragm	HSN	FKM
Seat	HSN	FKM

Table 3 - Seal Specifications			
		HIGHLY SATURATED NITRILE	FKM
Kimray Suffix		HSN	V
Resistance	Abrasion	G-E	G
	Acid	G-E	G-E
	Chemical	F	E
	Cold	G	P
	Flame	P	E
	Heat	E	E
	Oil	E	E
	Ozone	G	G-E
	Set	G	G-E
	Tear	F	F
	Water/Steam	E	P
	Weather	G	E
	CO2	G	G
	H2S	F	P
	Methanol	E	P
Properties	Dynamic	G	G
	Electrical	F	F
	Impermeability	G	G
	Tensile Strength	G-E	G
	Temp. Range		-20° to +300°F
		-29° to +149°C	-26° to +204°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT			

**Table 4 - Material Options - Diaphragm Balanced & Piston Balanced Throttle**

Part Description	Standard Material	Corrosive Material
Body	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Ratio Plug	2 & 3 inch Delrin (ASTM D4181), 4 & 6 inch (ASTM A395)	17-4PH (ASTM A564)
Cage	2 & 3 inch Delrin (ASTM D4181), 4 & 6 inch (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Stem	303SS (ASTM A582)	316SS (ASTM A479)
Bonnet	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
Piston	303SS (ASTM A582)	316SS (ASTM A479)
Cylinder	303SS (ASTM A582)	316SS (ASTM A479)

**Table 5 - Material Options - Piston Balance High Volume**

Part Description	Standard Material	Erosive Material	Corrosive Material
Body	Ductile (ASTM A395)		
Bonnet	Ductile (ASTM A395)		
Cylinder	303SS (ASTM A582)		316SS (ASTM A479)
Piston	303SS (ASTM A582)		316SS (ASTM A479)
Ratio Plug	303SS (ASTM A582)	D-2 (ASTM A681)	316SS (ASTM A479)
Removable Seat	303SS (ASTM A582)	D-2 (ASTM A681)	316SS (ASTM A479)
Stuffing Box	Ductile (ASTM A395)		
Stuffing Box Stem	17-4PH (ASTM A564)		316SS (ASTM A479)
Piston Stem	303SS (ASTM A582)		316SS (ASTM A479)
Seat Disc	316SS (ASTM A479)		

Series:

**D = Dump Valve**

Model:

**PH = Pneumatic Operated Piston Balanced High Volume**

Line Size:

**2 = 2 NPS**

**3 = 3 NPS**

End Connection:

**SA = FNPT (2 NPS only)**

**AR = 150RF**

Body Type:

**A = Angle**

**T = Thru**

Shell Material:

**D = Ductile Iron**

Inner Valve Size:

**F = Full Port**

**R = Reduced Port**

Actuator:

**0 = No Actuator**

**2 = 6 - 30 psi Spring Fail Close**

**5 = 6 - 30 psi Spring Fail Open**

Service Type:

**S = Standard**

**C = Corrosive**

**E = Erosive**

D	PH	2	SA	A	D	F	1	S	
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Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

1 = NACE Certification (Corrosive Option Only)
2 = Hydrostatic Test Certification
3 = MTR (Shell Components)
V = FKM Elastomers
X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.  
See product pages 04:20.1 - 04:20.3 for available options